

Organized network for supporting the amateur-scientist co-operation in Finland

V. Mäkelä⁽¹⁾, H. Haukka^(1,2), A. Oksanen^(1,3) and V.-P. Hentunen⁽²⁾

⁽¹⁾ Ursa Astronomical Association, Finland (veikko.makela@ursa.fi // Tel. +358-50-5668023), ⁽²⁾ Taurus Hill Observatory, Finland, ⁽³⁾ Astronomical Association Jyväskylän Sirius, Finland

PROAM network is a working group of Ursa Astronomical Association [1] for supporting Finnish amateur astronomers participating to co-operation projects between professional and amateur astronomers. The network relays the information on projects, maintains professional contacts and arranges training on technical skills for research work.

Background

Finnish Observatory Network [2] was originally founded for co-operation between the observatories of Finnish amateur astronomical associations and private amateurs who were interested in professional-amateur astronomy. Its goals were to help amateurs and associations in communication between professional and amateur astronomers and to share know-how in construction and equipping of observatories.

Results and Main Interest

During the last ten years the teams and members of the network (figure 1) have participated in several professional research projects, eg.

- photometry of exoplanet transits [3] (figure 4)
- asteroid search and monitoring
- photometry of asteroids [7] [9]
- mutual phenomena of Galilean satellites [4] (figure 5)
- comet monitoring campaigns [5]
- supernova search and monitoring [8]
- photometry of variable stars [6]
- photometry of GRB optical afterglows [10]

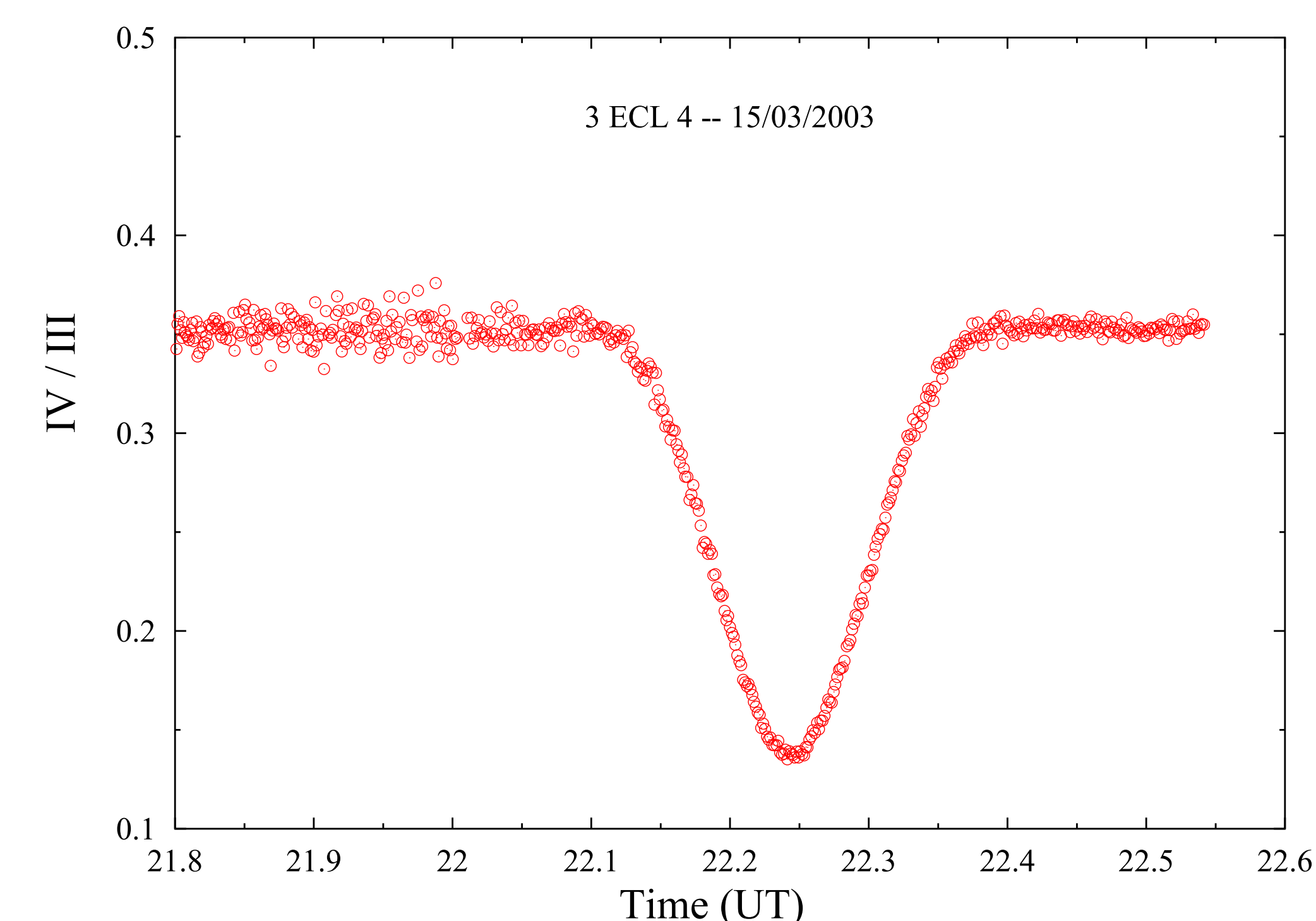


Figure 5: PHEMU03 [4] Campaign observations in Nyrola Observatory with 16-inch Meade LX200 and SBIG ST8XE CCD camera by A. Oksanen: Ganymede eclipsing Callisto on 15 Mar 2003.

References

- [1] <http://www.ursa.fi>
- [2] <http://www.ursa.fi/torniverkko/english.html>
- [3] <http://var2.astro.cz/ETD/index.php>
- [4] *The PHEMU03 catalogue of observations of the mutual phenomena of the Galilean satellites of Jupiter*; Arlot, J.-E., et. al.; *Astronomy and Astrophysics*, Volume 493, Issue 3, 2009, pp.1171-1182
- [5] <http://stsp.astro.umd.edu/>
- [6] <http://www.aavso.org/>
- [7] *Asteroids' physical models from combined dense and sparse photometry and scaling of the YORP effect by the observed obliquity distribution*; J. Hanuš, et. al.; Accepted for publication in *A&A*, January 15, 2013
- [8] *A low-energy core-collapse supernova without a hydrogen envelope*; S. Valentí, et. al.; *Nature* 459, 674-677 (4 June 2009); Nature Publishing Group; 2009.
- [9] *Lightcurve inversion for asteroid spins and shapes*; J. Torppa; University of Helsinki, Faculty of Science, Department of Astronomy; Doctoral dissertation; 2007
- [10] *Afterglow Upper Limits for Four Short-Duration, Hard Spectrum Gamma-Ray Bursts*; Hurley, K., et. al.; *The Astrophysical Journal*, Volume 567, Issue 1, 2002, pp. 447-453



Figure 2: Hankasalmi observatory on winter. Photo: Arto Oksanen.



Figure 3: Taurus Hill Observatory on summer. Photo: Jari Juutilainen.

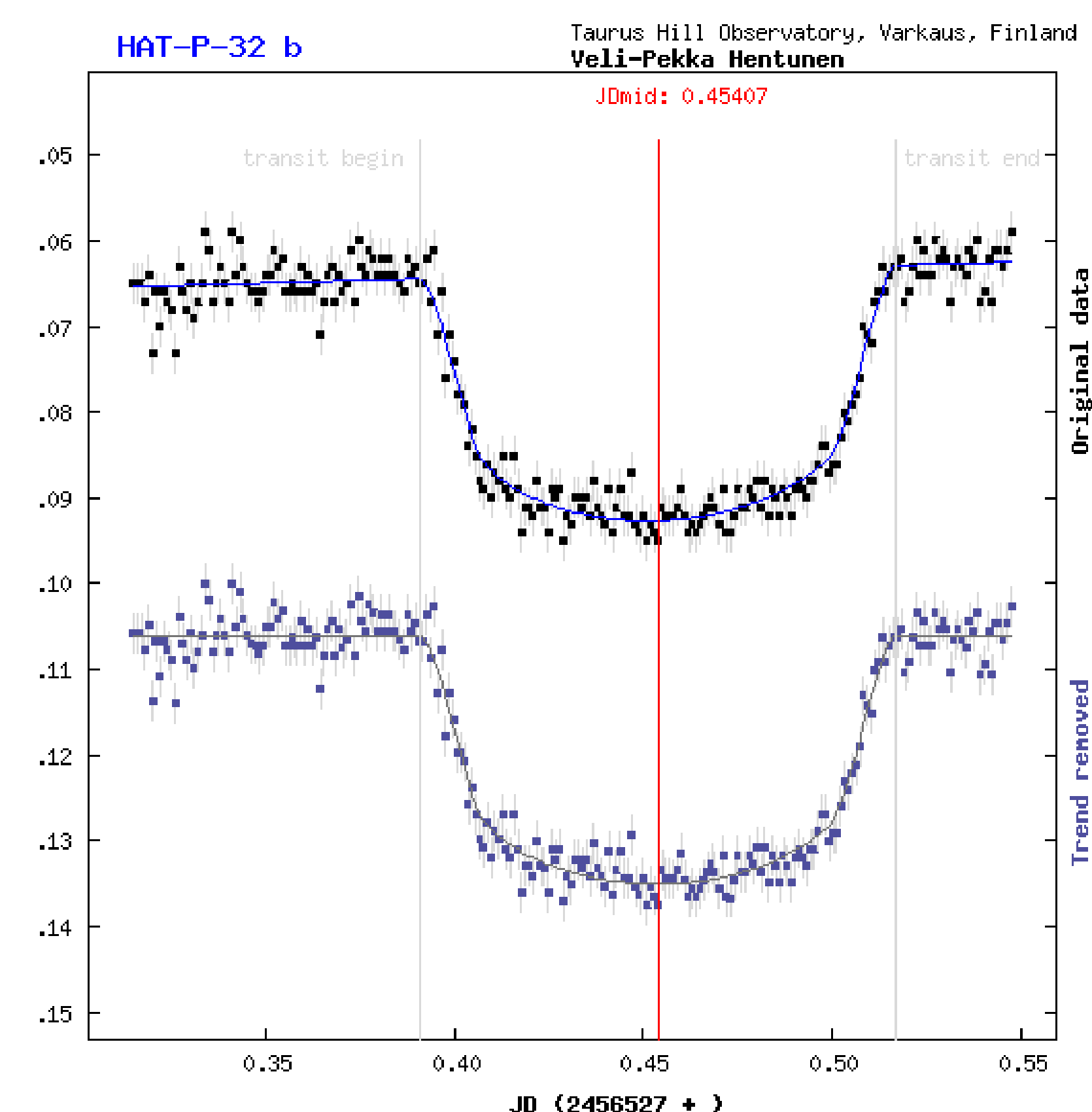


Figure 4: HAT-P-32 b observed at THO 22.8.2013 by V.-P. Hentunen.

Acknowledgements

Authors wants to give acknowledgements to all individual members and observatories who have involved in Finnish PROAM network. Also we want to give thanks to the scientists and institutes who have supported the network.

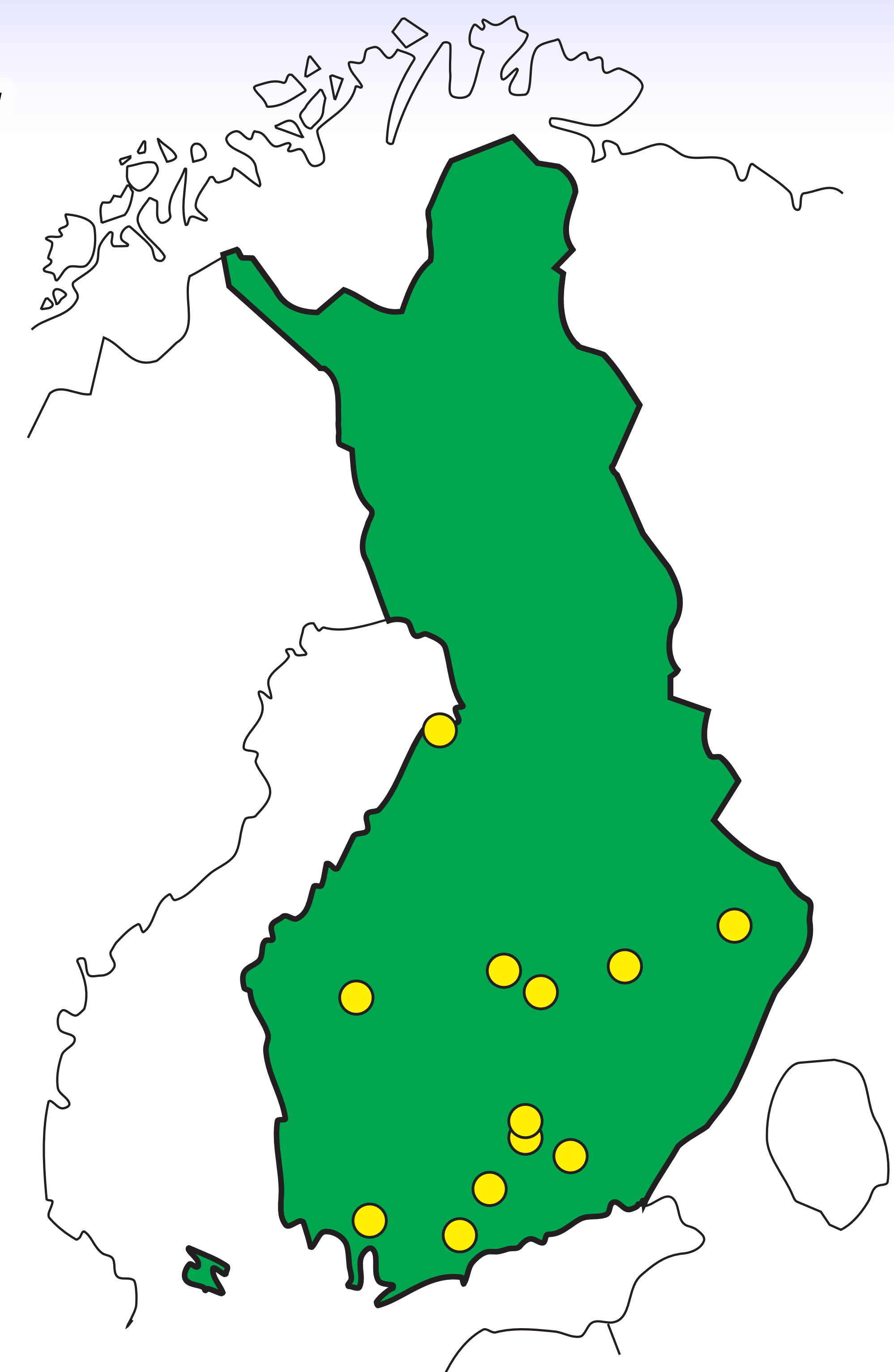


Figure 1: The map presenting the teams and members of the Finnish Observatory Network in Finland.

Goals of the PROAM Network

The main goals of Finnish PROAM network are:

1. Relay information on professional research projects, campaigns and observational requests where amateur contribution is needed
2. Be a contacting channel between professional astronomers and Finnish amateur astronomers
3. Help and train the network members in research skills, eg. photometry and data processing

The network have own web pages [2] and use e-mail and other electronical channels for communication.

Present Network

Recently the scope of the network is focused more on private amateurs interested in scientific work in professional-amateur projects, and the working group is renamed as Finnish PROAM network. The interest to scientific work among Finnish amateur astronomers is rising. There are plenty of high quality instruments and observatories in Finland. There is obvious need for information and support on research work.

